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(54) **Product for protecting, nourishing and treating the skin.**

(57) The invention relates to a product for treating skin adapted, in particular, to provide a protective, hydrating, trophic, anti-wrinkle, lenitive action, which product comprises a combination, as complete as possible, of the biopolymers forming natural mucous substances coating the mucous membranes of living organisms.

More specifically, this product can be used in the dermatological field as a base element for preparing several cosmetic and curative products.

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**A PRODUCT FOR PROTECTING, NOURISHING AND TREATING SKIN****BACKGROUND OF THE INVENTION**

5 The present invention relates to a product which can be used in one dermatological field as a base element for preparing several cosmetic and curative products.

A lot of skin treating products are commercially available the composition of which includes one or more substances which are considered as useful for treating skin defects generated by different causes, both of the inner and outer type.

10 These substances, which possess a more or less satisfactory efficacy can be either of chemical, vegetable or animal type.

In particular a great improvement in this field has been achieved based on the study of the mucous layer which continuously covers the mucous membranes of living organism.

15 As is known, this protecting layer efficiently protects the mucous cells from outer attacks of physical, chemical and microbiological nature, as well as against inner attacks, such as, for example, secretions occurring during a digestive process and against toxins which can be formed in the human body because of several reasons.

20 Notwithstanding this, it has been generally found that the mucous cells, in particular the gastric mucous cells, can survive and properly operate even in a hostile environment, because of the presence of enzymes and hydrochloric acid, since these cells are able of secreting particular biopolymers, forming a mucous layer which protects the cells against the gastric environment attack.

More specifically, the mentioned mucous layer, in addition to favouring and adjusting exchanges, has a protective, lubricating, antibacteric, hydrating and detoxicating activity.

25 Since several self-evident analogies between the mucous layers of the digestive apparatus and the human skin exist, because of the analogous structure and coating function, it should be obvious to assume that natural colloids (biopolymers) which provide an extraordinary recovering and protecting action on gastric mucous membranes, would have a like action on human skin.

30 At first, such an extraordinary protective action of the mucous membranes has been mainly ascribed to the presence of particular compounds (glycoproteins) which are generally called "mucine". Accordingly such a substance has been broadly used in a lot of dermatological products, with consequent greatly interesting results.

However, it has been observed that a very high purification of mucine, instead of providing more active compounds, lowers, the used dose being the same, the skin protecting characteristics.

35 Based on the above observation and practical experiments, carried out at the cutaneous level, by mucine-based compounds, in association with other biopolymers, in natural ratios, and by purified mucine, it has been found that the hydrating, softening, invigorating, anti-wrinkle action of the purified mucine based product is much smaller.

40 From the above it can be deduced that the several substances (mucous polysaccharides, proteoglycans, proteins and nucleic acids) which are present in the full extract, synergically operate, together with the glycoproteins of mucine, to increase the activity thereof.

**SUMMARY OF THE INVENTION**

45 Accordingly, the aim of the present invention is to provide such a product for protecting, nourishing and treating skin, adapted to be used as a base for preparing a lot of cosmetic products, which includes all of the biopolymers associated with natural mucine.

50 According to one aspect of the present invention, the above aim is achieved by a combination of biological structures, dosed in ratios corresponding to the natural composition thereof, and including, as an exemplary average composition:

mucine related glycoproteins	50%
glucosaminoglycanes	15%
nucleic acids	10%
extractive collagen proteins	25%

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This mixture, the composition of which can vary within limits of  $\pm 20\%$  is such as to provide very improved results with respect to those which can be obtained by the single components and, in particular, by pure mucine and, more specifically, it has the following activities:

10 - protective and defensive for the skin and mucous membranes

- anti-wrinkles and anti-ageing

- hydratating

- trophic

15 - anti-irritating, softening and lenitive

Based on the above mentioned characteristics, the product according to the present invention, which will be called EPIGLYCAN hereinafter, can be advantageously used in the formulation of several products for treating skin and of cosmetic type in general.

20 Some exemplary embodiments of these products, coming within the spirit of the invention, will be disclosed by way of an indicative but not limitative example hereinbelow.

ANTI- WRINKLE CREAM	
EPIGLYCAN	2 gr
AVOCADO OIL	8 gr
CETYLSTEARYL ALCOHOL	6 gr
OCTYLDODECANOLE	5 gr
POLYETHYLENEGLYCOLE STEARATE	4 gr
GLYCERINE	4 gr
PRESERVATIVES AND PERFUME	as required
WATER	balance to 100 gr

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TONIC PROTECTIVE LOTION	
EPIGLYCAN	0.5 gr
ROSE WATER	20 gr
HAMAMELIS WATER	20 gr
MINT WATER	20 gr
PRESERVATIVES AND PERFUME	as required
WATER	balance to 100 gr

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HYDRATATING LOTION	
EPIGLYCAN	1.5 gr
N.M.F.	5 gr
GLYCERINE	5 gr
MALTITOLE	3 gr
PRESERVATIVES AND PERFUME	as required
WATER	balance to 100 gr

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AFTER SHAVE LOTION	
EPIGLYCAN	1 gr
ALCOHOL 95°	30 ml
PANTENOL	0.3 gr
MENTHOL	0.05 gr
ALANTOINE	0.1 gr
WATER	balance to 100 gr

LENITIVE BARRIER CREAM	
EPIGLYCAN	1.5 gr
O/W BASE	10 gr
PETROLATUM OIL	30 gr
FLUID SILICONE	8 gr
PRESERVATIVES AND PERFUME	as required
WATER	balance to 100 gr

PERIOCLAR DROPS	
EPIGLYCAN	10 gr
HAMAMELIS EXTRACT	3 gr
MALLOW EXTRACT	3 gr
CAMOMILLE EXTRACT	2 gr
PROPYLENEGLYCOLE	2 gr
PRESERVATIVES	as required
WATER	balance to 100 gr

ANTI-AGEING CREAM	
EPIGLYCAN	3 gr
E VITAMIN	0.1 gr
BETA CARROTENE	0.02 gr
CARROT OIL	3 gr
YEAST EXTRACT	1 gr
MANNITOL	3 gr
SELF-EMULSIFYING O/W BASE	10 gr
ALMOND OIL	3 gr
PRESERVATIVES AND PERFUME	as required
WATER	balance to 100 gr

The above disclosed products allow several problems to be solved, relating to the protection and treatment of the skin, in a new and very positive way, based on a concrete and serious scientific experiment set.

It should be apparent that the practical method for making the subject cosmetic products, as well as the specific component amounts can vary depending on requirements, provided that in all of the cosmetic products is included, as an essential base, the product according to the present invention, called EPIGLYCAN and which has been hereinabove disclosed.

It should be also apparent that the subject product can also be replaced, either completely or in part, by

biopolymer extracts derived from the intestine, respiratory apparatus, rumen, uterus, that is all of the hollow organs of the body which, since they are susceptible of exchanges with the outer environment, and can form aggressive substances, of the chemical, physical and microbiological type must be protected, like the stomach, by a biopolymer based coating layer, for defense and protection purposes.

5 From the above disclosure it should be apparent that the invention fully achieves the intended aim.

While the invention has been disclosed and illustrated with reference to some preferred embodiments thereof, it should be apparent that the disclosed embodiments are susceptible to several modifications and variations all of which will come within the spirit and scope of the appended claims.

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## Claims

1- A product for protecting, nourishing and treating skin, characterized in that said product comprises a combination, as complete as possible, of biopolymers forming natural mucous substances coating the mucous walls of the digestive apparatus.

15 2- A product according to claim 1, characterized in that said product consists, either completely or in part, by biopolymer extracts derived from the intestine, respiratory apparatus, rumen, uterus or other hollow organs of the body.

20 3- A product according to the preceding claims, characterized in that said product has the following average formulation

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- glycoproteins relating to mucine	50 %
- glucosaminoglycans	15 %
- nucleic acids	10 %
- extractive collagen proteins	25 %

30 4- A product according to one or more of the preceding claims, characterized in that the formulation according to claim 3 may vary within formulation limits of  $\pm 20\%$ .

5- A product according to one or more of the preceding claims, characterized in that said product is adapted to be included, as an essential base, into the composition of a number of different products, for treating skin and of the cosmetic type in general, in order to provide at least the following specific actions:

35 - protective and defensive for the skin and mucous tissues

- anti-wrinkles and anti-ageing

- hydrating

- trophic

- anti-irritating, softening and lenitive

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EP 89 83 0528

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 5)
X	FR-A-2 261 755 (THOMAS) * Whole document *	1-2,5	A 61 K 7/48
Y	---	1-5	A 61 K 35/38
Y	FR-A-2 590 169 (SECTA ET LABORATOIRES DE COSMETOLOGIE YVES ROCHER) * Claims 1-2,5,7 *	1-5	A 61 K 35/24 A 61 K 35/42
X	FR-A-2 487 197 (THOMAS) * Whole document *	1-2,5	
X	PATENT ABSTRACTS OF JAPAN, vol. 12, no. 299 (C-520)[3146], 15th August 1988; & JP-A-63 68 512 (IWASE KOSUFUA K.K.) * Abstract *	1-2,5	
X	FR-M- 1 957 (LES LABORATOIRES ALBERT ROLLAND) * Claim *	1-2,5	
X	BE-A- 651 601 (IKAPHARM) * Claims *	1-2,5	TECHNICAL FIELDS SEARCHED (Int. Cl.5)
X	FR-A-1 390 184 (CHEMIE PATENT) * Whole document *	1-2,5	A 61 K
X,P	WO-A-8 905 137 (KLUDAS) * Whole document *	1-2,5	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 26-03-1990	Examiner FISCHER J.P.
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			